TECHNICAL BASIS FOR TIER I OPERATING PERMIT

DATE: December 5, 2002

PERMIT WRITER: Steve Ogle

PERMIT COORDINATOR: Bill Rogers

SUBJECT: AIRS Facility No. 027-00010, TASCO, Nampa
Final Tier I Operating Permit

Permittee:	The Amalgamated Sugar Co., LLC
AIRS Facility No.:	027-00010
Air Quality Control Region:	064
AIRS Facility Classification:	A
Standard Industrial Classification:	2063
Zone:	11
UTM Coordinates:	534.5, 4828.0
Facility Mailing Address:	P.O. Box 8787
County:	Nampa
Facility Contact Name and Title:	Joe Huff, Plant Manager
Contact Name Phone Number:	(208) 466-3541
Responsible Official Name and Title:	Joe Huff, Plant Manager
Exact plant Location:	138 W. Karcher Ave., Nampa, Idaho
General Nature of Business & Kinds of Products:	Beet sugar manufacturing

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AP-42	*Compilation of Air Pollutant Emission Factors, Fifth Edition*
CFR	Code of Federal Regulations
CO_2	carbon dioxide
CO	carbon monoxide
CSB	concentrated separator byproducts
DEQ	Idaho Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gr/dscf	grain/dry standard cubic foot
HAP	hazardous air pollutant(s)
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound(s) per hour
LPG	liquefied petroleum gas
MMBtu/hr	million British thermal units/hour
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NH_3	ammonia
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	Operations and Maintenance
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter of ten micrometers or less
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
TASCO	The Amalgamated Sugar Company LLC
T/d, T/hr, T/yr	tons per day, tons per hour, or tons per year, respectively
UTM	Universal Transverse Mercator
VOC	volatile organic compound(s)

PUBLIC COMMENT / AFFECTED STATES / EPA REVIEW SUMMARY

As required by IDAPA 58.01.01.364 *Rules for the Control of Air Pollution in Idaho*, DEQ provided for public notice and comment, including a public hearing, on the draft Tier I operating permit for the TASCO facility located in Nampa, Idaho. Public comment packages, which included the application materials, the permit, and associated technical memorandum, were made available for public review at the Nampa Public Library and DEQ's state and regional offices in Boise. The public comment period was provided from August 12 through September 12, 2002. A public hearing was held on September 11, 2002 in the Council Chambers of Nampa City Hall.

Review of the site location information included in the permit application indicates the facility is located within 50 miles of the Oregon state border. An *affected state* is defined by IDAPA 58.01.01.008.01 as: "*All states, whose air quality may be affected by the emission of the Tier I source and that are contiguous to Idaho; or that are within 50 miles of the Tier I source.*" The state of Oregon was provided an opportunity to comment on the draft Tier I operating permit.

A proposed permit was developed based on comments submitted during the public comment period. The proposed permit was then forwarded to EPA for their review as required by IDAPA 58.01.01.366. The EPA provided no written objection to the permit.

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for the proposed Tier I operating permit in accordance with IDAPA 58.01.01.362.

DEQ has reviewed the information provided by TASCO regarding the operation of their Nampa facility. This information was submitted based on the requirements to submit a Tier I operating permit in accordance with IDAPA 58.01.01.300.

2. SUMMARY OF EVENTS

On July 3, 1995, DEQ received the Tier I operating permit application from TASCO for their beet sugar manufacturing facility located in Nampa. The application was prepared by TASCO. The application was determined to be administratively complete on September 1, 1995. On February 3, 1999, DEQ received additional information from TASCO and updated sections of the application. During permitting, DEQ also received TASCO's supplementary submittals.

An initial draft Tier I operating permit and technical analysis was developed by Rebecca Goehring, DEQ Environmental Compliance Analyst on June 25, 2001. Issuance of this permit was delayed due to development and issuance of a Tier II operating permit for TASCO. Steve Ogle, DEQ Associate Engineer, revised the Tier I operating permit to incorporate the terms and conditions of the Tier II operating permit prior to June 19, 2002.

On August 1, 2002, DEQ issued a draft Tier I operating permit for facility review. On August 8, 2002, DEQ received comments from TASCO. The draft Tier I permit was revised and issued for public comment on August 12, 2002. A public hearing was held in Nampa, Idaho on September 11, 2002. The public comment period ended on September 12, 2002. The comments were addressed by DEQ in a document entitled "STATE OF IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY RESPONSE TO PUBLIC COMMENTS ON PROPOSED TIER II AND DRAFT AIR QUALITY TIER I OPERATING PERMIT FOR THE AMALGAMALGED SUGAR COMPANY, NAMPA, IDAHO" (refer to Appendix C of this memorandum). The draft Tier I permit was revised in response to the comments and forwarded to EPA as a proposed Tier I operating permit for the 45-day review period required by IDAPA 58.01.01.366. The EPA provided no written objection to the permit.

3. BASIS OF THE ANALYSIS

The documents listed below were relied upon in preparing this memorandum and the Tier I operating permit.

- Tier I operating permit application, received July 3, 1995; and supplemental application materials received on February 3, 1999
- Draft Tier II Operating Permit No. 027-00010
- All existing DEQ permits and inspection reports for the facility
- *Compilation of Air Pollutant Emission Factors*, AP-42, Fifth Edition, January 1995, Office of Air Quality Planning and Standards, EPA
- Guidance developed by EPA and DEQ
- Title V permits issued by other jurisdictions
- *Rules for the Control of Air Pollution in Idaho*
- Code of Federal Regulations, Title 40
- Public comments received for the TASCO, Paul Tier I operating permit

- Air and Waste Management Association. *Air Pollution Engineering Manual.* A.J. Buonicore and W. Davis, Eds. Van Nostrand Reinhold. New York, NY. 1992
- C. David Cooper. *Air Pollution Control, A Design Approach.* Waveland Press, Inc. 1986
- John Richards. *Control of Particulate Emissions.* Air Pollution Technology Institute Course 413, 1995
- *Combustion Evaluation in Air Pollution Control.* Air Pollution Technology Institute Course 427. Draft Revision. March 1994

4. FACILITY DESCRIPTION

4.1 GENERAL PROCESS DESCRIPTION

Mechanically harvested sugar beets are shipped to piling grounds at or near the facility. At the piling grounds, the beets are cleaned using beet pilers that remove loose dirt by passing the beets over screens. The pilers then stack the beets into storage piles. Beets are shipped from off-site storage piling grounds to the facility using trucks or rail cars. Beets are dumped by rail cars, trucks, or front-end loaders into wet hoppers that use a flume to both move and clean the beets. The flumes carry the beets to the beet feeder, which regulates the flow of beets through the system and prevents stoppages in the system. From the feeder, the flumes carry the beets through several cleaning devices, which include rock catchers, sand separators, water spray nozzles, and trash catchers. After cleaning, the beets are separated from the water with dewatering rolls and are transported by chain and bucket elevators to the processing operations.

Sugarbeet processing comprise several steps, including diffusion, juice purification, evaporation, crystallization, dried pulp manufacture, and sugar recovery from molasses. Descriptions of these operations are presented in the following paragraphs.

Before removing the sucrose from the beet by diffusion, the cleaned and washed beets are sliced into long, thin strips called cossettes. The cossettes are conveyed to a continuous diffuser in which hot water is used to extract sucrose from the cossettes. The diffuser is vertical and conveys the cossettes up as water is introduced at the top of the diffuser and flows countercurrent to the cossettes. The water temperature in the diffuser is typically maintained between 50° and 80°C. This temperature depends on several factors, including the denaturation temperature of the cossettes, the thermal behavior of the beet cell wall, potential enzymatic reactions, bacterial activity, and pressability of the beet pulp. Disinfectants, such as ammonium bisulfate, are sometimes added to the diffuser. The sugar-enriched water that flows from the outlet of the diffuser is called raw juice and contains between 13% and 18% sugar. This raw juice proceeds to the juice purification stage. The processed cossettes (now called pulp) leaving the diffuser are conveyed to the dried-pulp manufacture stage.

In the juice purification stage, non-sucrose impurities in the raw juice are removed so that the pure sucrose can be crystallized. First, the juice passes through screens to remove any small cossette particulates. Then the mixture is heated to 80° to 85°C and proceeds to the liming system. In the liming system tanks, milk of lime is added to the mixture to absorb or adhere to the impurities in the mixture. The juice is then sent to the first carbonation tanks where CO_2 gas is bubbled through the mixture to precipitate the lime as insoluble calcium crystals. Lime kilns are used to produce the CO_2 and lime used in carbonation; the lime is converted to milk of lime in lime slakers. The small, insoluble crystals (produced during carbonation) settle out in a clarifier, after which the juice is again treated with CO_2 (in the second set of carbonation tanks) to remove the remaining lime and impurities. The pH of the juice is lower during the second carbonation, causing large, easily filterable, calcium carbonate crystals to form. After the filtration, the juice is softened. Then a small amount of SO_2 is added to the juice to inhibit reactions that lead to darkening of the juice. The SO_2 is produced by burning elemental sulfur in sulfur stoves. Following the addition of SO_2, the juice (referred to as thin juice) proceeds to the evaporators.

The evaporating process, which increases the sucrose concentration in the juice by removing water, is performed in a series of five evaporators. Steam from large boilers is used to heat the first evaporator, and the steam from the water evaporated in the first evaporator is used to heat the second evaporator.

This heat transfer continues through the five evaporators, and as the temperature decreases, the pressure inside each evaporator is also decreased, allowing the juice to boil at the lower temperatures provided in each subsequent evaporator. Some steam is released from the first three evaporators, and this steam is used as a heat source for various process heaters throughout the plant. After evaporation, the percentage of sucrose in the juice (now referred to a thick juice) is 65% to 75%. Half of the thick juice is sent to storage tanks. The other half is combined with crystalline sugars, produced later in the process, and dissolved in the high melter. This mixture is then filtered to yield a clear liquid referred to as standard liquor, which proceeds to the crystallization operation.

Sugar is crystallized by low-temperature pan boiling. The standard liquor is boiled in vacuum pans until it becomes supersaturated. To begin crystal formation, the liquor is seeded" with finely milled sugar. The seed crystals are carefully grown through control of the vacuum, temperature, feed liquor additions, and steam. When the crystals reach the desired size, the mixture of liquor and crystals, known as massecuite or fillmass, is discharged to the mixer. From the mixer, the massecuite is poured into high-speed centrifugals, in which the liquid is centrifuged into the outer shell, and the crystals are left in the inner centrifugal basket. The sugar crystals are then washed with pure hot water and are sent to the granulator, which is a rotary drum dryer, and then to the cooler. The wash water, which contains a small quantity of sucrose, is pumped to the vacuum pans for processing. After cooling, the sugar is screened and then either packaged or stored in large silos for future packaging.

The liquid that was separated from the sugar crystals in the centrifugals is called syrup. This syrup serves as feed liquor for the "second boiling" and is introduced back into a second set of vacuum pans. The crystallization/centrifugation process is repeated once again, resulting in the production of molasses.

The molasses produced in the third boiling step can be used in the production of livestock feed. This molasses can also be further desugarized using the separator process. The products of the separator process are extract (the high sugar fraction) and CSB (the low sugar fraction). The extract can be stored in tanks or immediately processed in the sugar end, like thick juice. The CSB is used as livestock feed as a liquid or as an addition to the pulp.

Wet pulp from the diffusion process is another product of sugarbeet processing. Some of the wet pulp is sold as cattle feed. However, most of the wet pulp is pressed to reduce the moisture content from about 95% to about 75%. The water removed by the presses is collected and used as diffusion water. After pressing, the pulp may be sold as cattle feed or sent to the dryer. The pulp dryer can be fired by natural gas or coal. As the pulp is dried, the gas temperature decreases and the pulp temperature increases. The resulting product is typically pelletized and is sold as livestock feed, but may also remain unpelletized and sold in this form.

4.2 FACILITY CLASSIFICATION

This facility is a major facility as defined by IDAPA 58.01.01.008.10, for the purposes of Tier I operating permit requirements, because the facility emits or has the potential to emit PM, PM_{10}, CO, NO_X, VOC, SO_2, and NH_3 in amounts greater than or equal to 100 T/yr. The facility is also major as defined by IDAPA 58.01.01.006.55 and is subject to PSD permitting requirements because the facility emits or has the potential to emit PM, PM_{10}, CO, NO_X, and SO_2 in amounts greater than or equal to 250 T/yr. The steam plant (B&W Boilers No. 1 and No. 2, Riley Boiler, and Union Boiler) is a designated facility in accordance with IDAPA 58.01.01.006.27(v).

The facility is not currently subject to federal NSPS requirements in accordance with 40 CFR 60, NESHAP requirements in accordance with 40 CFR 61, or MACT standards in accordance with 40 CFR 63. The SIC code defining the facility is 2063 and the AIRS facility classification is A.

4.3 AREA CLASSIFICATION

The TASCO facility is located in Nampa, which is in Canyon County, Air Quality Control Region 64. The area is unclassified for all criteria pollutants, although Canyon County is located in the Treasure Valley Air Shed Management Plan area.

4.4 PERMITTING HISTORY

March 19, 1981: Air Pollution Source Permit No. 13-0400-0010 was issued for operation of the Riley boiler, one B&W boiler, and three pulp dryers.

January 1, 1984: Air Pollution Source Permit No. 0400-0010 was issued for operation of the pulp dryers.

August 1, 1991: A permit non-applicability determination for alterations to the pulp pelletizer ventilation system was issued by DEQ.

August 2, 1991: A permit non-applicability determination for installation of a filter house on two lime kilns was issued by DEQ.

July 7, 1992: A permit non-applicability determination for installation and operation of a cyclonic scrubber system was issued by DEQ.

April 29, 1994: A permit non-applicability determination for installation and operation of a chromatic separation desugarization unit was issued by DEQ.

April 26, 1995: A self-exemption letter from TASCO for installation and operation of a vacuum system in the sugar warehouse was acknowledged by DEQ.

July 11, 2000: A self-exemption letter from TASCO for process improvements at the facility was acknowledged by DEQ. The response letter states that "*...there was insufficient technical information submitted in your letter for DEQ to concur with your self-exemption determination.*"

May 30, 2001: A proposed energy project, initially submitted to DEQ on March 9, 2001 for a non-applicability determination, was determined to be a modification requiring a permit application.

July 25, 2001: The proposed energy project application was withdrawn by TASCO.

September 30, 2002: Tier II Operating Permit No. 027-00010 was issued to TASCO. The facility-wide permit contains a compliance schedule for emissions reductions required to demonstrate compliance with IDAPA 58.01.01.403.02.

5. REGULATORY ANALYSIS

5.1 FACILITY-WIDE APPLICABLE REQUIREMENTS

5.1.1 Fugitive Particulate Matter - IDAPA 58.01.01.650-651

5.1.1.1 Requirement

Permit Condition 2.1 states that all reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651. This condition also appears as Permit Condition 2.1 in Tier II Operating Permit No. 027-00010, dated September 30, 2002.

Permit Condition 2.2 establishes specific criteria for reducing fugitive emissions from specific area sources, and is referred to as the Fugitive Dust Management Plan. The Fugitive Dust Management Plan was submitted by TASCO as part of the Tier II operating permit application (refer to Appendix 4 of the application). This condition also appears as Permit Condition 2.2 in Tier II Operating Permit No. 027-00010, dated September 30, 2002.

5.1.1.2 Compliance Demonstration

Permit Condition 2.2 requires TASCO to monitor and record, on a weekly basis, compliance with the provisions of the Fugitive Dust Management Plan.

Permit Condition 2.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after a valid complaint is received. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive PM emissions, whether or not a complaint is received, Permit Condition 2.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive emissions during daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emissions inspection.

Both Permit Conditions 2.3 and 2.4 require the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive particulate emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.2 Control of Odors - IDAPA 58.01.01.775-776

5.1.2.1 Requirement

Permit Condition 2.5 and IDAPA 58.01.01.776 both state: "*No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution.*" This condition is currently considered federally enforceable until such time it is removed from the SIP, at which time it will be a state-only enforceable requirement.

5.1.2.2 Compliance Demonstration

Permit Condition 2.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Permit Condition 2.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.3 Visible Emissions - IDAPA 58.01.01.625

5.1.3.1 Requirement

Permit Condition 2.7 states: *"No person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined..."* by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, NO_x, and/or chlorine gas is the only reason for the failure of the emissions to comply with the requirements of this rule.

5.1.3.2 Compliance Demonstration

To ensure reasonable compliance with the visible emissions rule, Permit Condition 2.8 requires that the permittee conduct routine visible emissions inspections of the facility. The permittee is required to inspect potential sources of visible emissions during daylight hours and under normal operating conditions. The visible emissions inspection consists of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emissions covered by this section, the permittee must either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is determined to be greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee must take corrective action and report the exceedance in its annual compliance certification and in accordance with the excess emissions rules in IDAPA 58.01.01.130-136. The permittee is also required to maintain records of the results of each visible emissions inspection and each opacity test when conducted. These records must include the date of each inspection, a description of the permittee's assessment of the conditions existing at the time visible emissions are present, any corrective action taken in response to the visible emissions, and the date corrective action was taken.

It should be noted that if a specific emissions unit has a specific compliance demonstration method for visible emissions that differs from Permit Condition 2.8, then the specific compliance demonstration method overrides the requirement of Permit Condition 2.8. Permit Condition 2.8 is intended for small sources that would generally not have any visible emissions.

Permit Condition 2.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.4 Excess Emissions - IDAPA 58.01.01.130-136

5.1.4.1 Requirement

Permit Condition 2.9 requires that the permittee comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns.

This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. It should; however, be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the *Rules* only apply if the permittee anticipates requesting consideration under subsection 131.02 of the *Rules* to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 131.01 states *"...The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05."* Failure to prepare or file procedures pursuant to sections 133.02 and 134.04 is not a violation of the *Rules* in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the

procedures in subsections 133.02, 133.03, 134.04, and 134.05; and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

5.1.4.2 Compliance Demonstration

The compliance demonstration is contained within the text of Permit Condition 2.9. No further clarification is necessary here.

5.1.5 Open Burning - IDAPA 58.01.01.600-616

Permit Condition 2.10 incorporates, by reference, provisions for open burning (refer to IDAPA 58.01.01.600-616).

5.1.6 Air Stagnation Advisory - IDAPA 58.01.01.550-562

Permit Condition 2.11 requires the permittee to comply with the provisions of IDAPA 58.01.01.561 during any air pollution emergency episode.

5.1.7 Renovation/Demolition - 40 CFR 61, Subpart M

The regulations in 40 CFR 61, Subpart M, are intended to control asbestos releases to the atmosphere. Permit Condition 2.12 requires the permittee to comply with 40 CFR 61, Subpart M.

5.1.8 Regulated Substances for Accidental Release Prevention - 40 CFR 68.10(a)

The facility is not currently subject to the requirements of 40 CFR 68; however, should the facility ever become subject to 40 CFR 68, it must comply with the following provisions contained within:

- Three years after the date on which a regulated substance present above a threshold quantity is first listed under 40 CFR 68.130 or
- The date on which a regulated substance is first present above a threshold quantity in a process.

Permit Condition 2.13 requires the permittee to comply with 40 CFR 68.10(a).

5.1.9 Sulfur Content of Coal - IDAPA 58.01.01.729

5.1.9.1 Requirement

Permit Condition 2.14 limits the sulfur content of any coal sold, distributed, used, or made available for use (refer to IDAPA 58.01.01.729).

5.1.9.2 Compliance Demonstration

Compliance with this permit condition shall be demonstrated by maintaining records from the coal supplier, or by conducting American Society for Testing and Materials testing to determine the sulfur content, as required by Permit Condition 2.15 of the Tier I operating permit.

5.1.10 Ambient Monitoring Requirements – Tier II Operating Permit No. 027-00010

Permit Condition 2.16 is taken directly from Permit Condition 2.5 of Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable regulation for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

Permit Condition 2.16 requires TASCO to install, operate, and maintain ambient monitors for PM_{10} and SO_x, until TASCO has implemented applicable provisions of the compliance plan (refer to Section 13 of Tier II Operating Permit No. 027-00010, dated September 30, 2002).

Permit Condition 2.16.1 requires TASCO to submit an ambient monitoring protocol to DEQ for approval within 120 days of Tier II operating permit issuance. Permit Condition 2.16.2 requires TASCO to conduct and submit a modeling analysis for placing the monitors, with all backup data requested by DEQ, for approval within 60 days after the modeling protocol is approved. Permit Condition 2.16.3 requires that all monitoring data shall be submitted to DEQ, in accordance with the approved ambient monitoring protocol. These conditions assure a means for compliance demonstration with the requirements of Permit Condition 2.16.

5.1.11 Compliance Testing - IDAPA 58.01.01.157

Permit Condition 2.17 outlines the DEQ-approved methods by which the permittee should perform compliance testing. This condition also contains reporting requirements for compliance tests (refer to IDAPA 58.01.01.157). Permit Condition 2.18 lists pollutant-specific test methods to be used for compliance testing purposes. Permit Conditions 2.19 and 2.20 contain additional provisions required compliance testing, including altitude adjustments, averaging periods, and visible emissions requirements.

5.1.12 Operations and Maintenance Manual Requirements - Tier II Operating Permit No. 027-00010

Permit Condition 2.21 contains requirements for initial development and ongoing management of O&M manuals for selected sources within the Tier I operating permit.

5.1.13 Monitoring and Recordkeeping - IDAPA 58.01.01.322.07

Permit Condition 2.22 lists general requirements for monitoring and recordkeeping (refer to IDAPA 58.01.01.322.07).

5.1.14 Reports and Certifications - IDAPA 58.01.01.322.08

Permit Condition 2.23 lists general requirements for reports and certifications (refer to IDAPA 58.01.01.322.08).

5.2 EMISSIONS UNIT – B&W NO. 1, B&W NO. 2, AND RILEY BOILERS (S-B1, S-B2, AND S-B3)

5.2.1 Emissions Unit Description

The three boilers permitted in this section are fired by pulverized coal and natural gas, and are used to supply steam for processes at the facility. Table 5.2.1 contains a description of each boiler.

Table 5.2.1: BOILER DESCRIPTIONS

Boiler	Unit Number	Installation Date	Rated Steam Capacity (lb/hr)
B&W No. 1 boiler	S-B1	1942	105,000
B&W No. 2 boiler	S-B2	1942	105,000
Riley boiler	S-B3	1969	250,000

The emissions from the B&W boilers are controlled by one shared baghouse (A-B1/2). The baghouse was manufactured by Western Precipitation/Joy Manufacturing Company and is a fabric filter baghouse. Emissions from the Riley boiler are controlled by one fabric filter baghouse (A-B3) manufactured by Envirotech Corporation.

In the Tier I operating permit application, TASCO requested a nonapplicability determination of NSPS requirements (40 CFR 60, Subpart D) for the B&W boilers and the Riley boiler. DEQ has reviewed the

requirements of 40 CFR 60, Subpart D, and has determined that the boilers are not currently subject to these requirements.

5.2.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.2.2.1 Requirement

Permit Condition 3.1 is a paraphrase of Permit Condition 3.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.2.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.7 requires TASCO to conduct a series of performance tests to demonstrate compliance with the emissions limits of Permit Condition 3.1. TASCO is required to conduct tests for PM_{10} with coal as the exclusive fuel and for CO with natural gas as the exclusive fuel. The fuel-specific performance tests are required because AP-42 emissions factors indicate that PM_{10} emissions rates may be higher with coal fuels, while the CO emissions rates may be higher with natural gas as a fuel. This permit condition requires that the test be conducted at worst-case conditions, and that the fuel-firing rate, steaming rate, and baghouse pressure drop be recorded during the test. This permit condition also requires that additional tests be performed if the emissions rate recorded during the test is greater than 75% of the emissions rate limits in Permit Condition 3.1 (refer to Permit Condition 3.7.2). Permit Condition 2.17 requires that TASCO submit the results of the performance test to DEQ for evaluation and approval.

Permit Condition 3.5 limits the fuel-firing rate of each boiler to 120% of the average firing rate achieved during the most recent DEQ-approved performance test that shows compliance with the emissions rate limits of Permit Condition 3.1. Permit Condition 3.8 requires that TASCO monitor and record the type and amount of fuel fired in each boiler. These permit conditions limit the emissions rates of PM_{10} and CO from the boilers and use the fuel-firing rate as a method for continually determining compliance with the emissions limits of Permit Condition 3.1.

Emissions from the boilers are controlled by baghouses. Permit Condition 3.6 requires that the baghouses be in operation at all times during boiler operation and that the pressure drop across the baghouses be within manufacturer or O&M manual specifications. The performance test requirements of Permit Condition 3.7 require TASCO to monitor the pressure drop across the baghouses during the tests. Permit Condition 3.9 requires TASCO to monitor the pressure drop across the baghouses continuously. Permit Condition 2.21 requires TASCO to develop O&M manuals for the boilers' baghouses based, in part, on the monitoring parameters from the performance test. The O&M manuals must be made available to DEQ upon request. These provisions assure that the control equipment used to reduce emissions from the boilers is operated and maintained in good working condition.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 3.11 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 3.8-3.10 to DEQ and the EPA every six months.

5.2.3 Visible Emissions - IDAPA 58.01.01.625

5.2.3.1 Requirement

Permit Condition 3.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 3.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.2.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.10 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections on a bi-weekly basis. Permit Condition 3.11 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.2.4 Grain-loading Standard - IDAPA 58.01.01.677

5.2.4.1 Requirement

Permit Condition 3.3 was originally established by Permit Condition 3.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. Permit Condition 3.3 is a paraphrase of IDAPA 58.01.01.677, and is applicable to all three boilers, since the boilers have been in operation prior to 1979 and are coal and/or natural gas-fueled. These three boilers may be fired by a combination of two fuels; therefore, in accordance with IDAPA 58.01.01.678, Table 3.5 sets forth standards to be used when the two fuels are used concurrently. In accordance with IDAPA 58.01.01.008.03, this permit condition is an applicable Tier I operating permit standard.

5.2.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.7 requires the permittee to conduct performance tests to establish compliance with the grain-loading standard of Permit Condition 3.3 when firing the boilers on coal. The performance test must be conducted at worst-case conditions, and the coal feed rate and baghouse pressure drops must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 3.5 limits the coal feed rate of each boiler to 120% the average feeding or firing rate achieved during the source test. Permit Condition 3.6 requires that the pressure drop across the baghouse be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop O&M manuals for the boilers' baghouses based, in part, on the monitoring parameters from the performance test. Permit Condition 3.8 requires TASCO to monitor and record the coal feed rate of each boiler, while Permit Condition 3.9 requires monitoring of the baghouse pressure drop. These permit conditions limit the emissions rate of PM from the boilers and the coal feeding rate of each boiler and use the baghouse pressure drops as methods for continually determining compliance with the emissions limits of Permit Condition 3.3.

Appendix A of this memorandum contains calculations that show compliance with the grain-loading standard, using AP-42 emissions factors for natural gas combustion. Emissions factors given in AP-42 are generally accepted as conservative estimates. Even a conservative estimate of emissions from natural gas combustion results in an approximated grain loading well below the standard of 0.015 gr/dscf. Therefore, when using natural gas in the boilers, the permittee is in compliance with the grain-loading standard.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 3.11 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 3.8-3.10 to DEQ and the EPA every six months.

5.3 EMISSIONS UNIT – UNION BOILER (S-B4)

5.3.1 Emissions Unit Description

The Union boiler is fired exclusively by natural gas and is used to supply steam to processes at the facility. This boiler was installed in 1957 and has a steaming capacity of 60,000 lb/hr of steam. There is no control equipment on the Union boiler.

In the Tier I operating permit application, TASCO requested a nonapplicability determination of NSPS requirements (40 CFR 60, Subpart D) for the Union boiler. DEQ has reviewed the requirements of 40 CFR 60, Subpart D, and has determined that the boiler is not currently subject to these requirements.

5.3.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.3.2.1 Requirement

Permit Condition 4.1 is a paraphrase of Permit Condition 4.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.3.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 4.6 requires TASCO to conduct performance tests to demonstrate compliance with the emissions limits of Permit Condition 4.1. TASCO is required to conduct tests for PM_{10} and CO at worst-case conditions, and record the fuel-firing rate and steaming rate during the test. Permit Condition 2.17 requires that TASCO submit the results of the performance test to DEQ for evaluation and approval.

Permit Condition 4.5 limits the fuel-firing rate of the Union boiler to 120% of the average firing rate achieved during the most recent DEQ-approved performance test that shows compliance with the emissions rate limits of Permit Condition 4.1. Permit Condition 4.7 requires that TASCO monitor and record the amount of fuel fired in the boiler. These permit conditions limit the emissions rates of PM_{10} and CO from the boilers and use the fuel-firing rate as a method for continually determining compliance with the emissions limits of Permit Condition 4.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 4.9 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 4.7 and 4.8 to DEQ and the EPA every six months.

5.3.3 Visible Emissions - IDAPA 58.01.01.625

5.3.3.1 Requirement

Permit Condition 4.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 4.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.3.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 4.8 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections. Permit Condition 4.10 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.3.4 Grain-loading Standard - IDAPA 58.01.01.677

5.3.4.1 Requirement

Permit Condition 4.3 was originally established by Permit Condition 4.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. Permit Condition 4.3 is a paraphrase of IDAPA 58.01.01.677, and is applicable to the Union boiler, since the boiler has been in operation prior to 1979 and is natural gas-fueled. Therefore, in accordance with IDAPA 58.01.01.008.03, this is an applicable Tier I operating permit standard.

5.3.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 4.4 states that the Union boiler may be fired only with natural gas. Appendix A of this memorandum contains calculations that show compliance with the grain-loading standard, using AP-42 emissions factors for natural gas combustion. Emissions factors given in AP-42 are generally accepted as conservative estimates. Even a conservative estimate of emissions from natural gas combustion results in an approximated grain loading well below the standard of 0.015 gr/dscf. Therefore, as long as the permittee uses only natural gas in the boilers, the permittee is in compliance with the grain-loading standard.

5.4 EMISSIONS UNIT – SOUTH, CENTER, AND NORTH PULP DRYERS (S-D1, S-D2, AND S-D3)

5.4.1 Emissions Unit Description

The three dryers are direct-fired pulp dryers used to dry pressed beet pulp and produce cattle feed. The dryers are fired using pulverized coal and natural gas. Table 5.4.1 contains a description of each dryer.

Table 5.4.1: DRYER DESCRIPTIONS

Dryer	Unit Number	Installation Date	Input Design Capacity (T/hr)
South	S-D1	1968	65
Center	S-D2	1968	65
North	S-D3	1956	25

Exhaust gases from the South and Center dryers are split into two streams. Each stream passes through a cyclone and scrubber in series. Exhaust gases from the North dryer remain in a single stream that passes through a cyclone and scrubber in series.

Within the fifth year of the permit term, the Center and North dryers will be replaced by a steam dryer system.

DEQ has determined that the grain-loading standard (IDAPA 58.01.01.675) does not apply to the dryers. Therefore, the gain-loading limit imposed by Air Pollution Source Permit No. 0400-0010, dated January 1, 1984, does not apply to the dryers.

5.4.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.4.2.1 Requirement

Permit Condition 5.1 is a paraphrase of Permit Condition 5.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.4.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 5.8 requires TASCO to conduct performance tests on the South dryer to demonstrate compliance with the emissions limits of Permit Condition 5.1. Due to emissions changes required by the compliance schedule (refer to Section 14 of the permit), the performance test will be conducted after the provisions of Permit Condition 13.8 of Tier II Operating Permit No. 027-00010 have been satisfied. TASCO is required to conduct tests for PM_{10} with coal as the exclusive fuel and for CO with natural gas as the exclusive fuel. The fuel-specific performance tests are required because AP-42 emissions factors indicate that PM_{10} emissions rates may be higher with coal fuels, while the CO emissions rates may be higher with natural gas as a fuel. This permit condition requires that the test be conducted at worst-case conditions, and that the fuel firing rate, pulp throughput rate, and scrubber differential pressure be recorded during the test. Permit Condition 2.17 requires that TASCO submit the results of the performance test to DEQ for evaluation and approval.

Permit Condition 5.5 limits the pulp throughput, coal feed rate, and natural gas firing rate of the South dyer to 120% of the average rates achieved during the most recent DEQ-approved performance test that showed compliance with the emissions rate limits of Permit Condition 5.1. Permit Condition 5.9 requires that TASCO monitor and record the type and amount of fuel and the pulp throughput of the dryer. These permit conditions limit the emissions rates of PM_{10} and CO from the boilers and use the fuel-firing rate as a method for continually determining compliance with the emissions limits of Permit Condition 5.1.

Emissions from the boilers are controlled by a series of cyclones and scrubbers. Permit Condition 5.6 requires that the cyclones and scrubbers be in operation at all times during dryer operation, and that the scrubber differential pressure of the scrubbers be within manufacturer or O&M manual specifications. The performance test requirements of Permit Condition 5.8 require TASCO to monitor the scrubber differential pressure during the tests. Permit Condition 5.10 requires TASCO to continually monitor the scrubber differential pressure of the scrubbers. Permit Condition 2.21 requires TASCO to develop O&M manuals for the South dryer's control equipment based, in part, on the monitoring parameters from the performance test. The O&M manuals must be made available to DEQ upon request. These provisions assure that the control equipment used to reduce emissions from the South dryer is operated and maintained in good working condition.

Section 14 of the Tier I operating permit contains a compliance schedule for the TASCO facility. As part of this compliance schedule, TASCO is required to replace the Center and North pulp dryers with a steam dryer system. The steam dryer system will reduce total emissions from the pulp dryers; however, operational constraints mandate a five-year period to fully install the steam dryer system. Permit Condition 14.9.2 requires that the Center and North dryer cease operation within five years of permit issuance. Permit Condition 14.6.1 requires that TASCO submit a PTC application for the steam system to insure that any increase in emissions from the facility are evaluated by DEQ before construction and operation of the new process. Permit Condition 14.9.3 requires that TASCO notify DEQ when the Center and North dryers cease operation.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 5.13 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 5.9-5.12 to DEQ and the EPA every six months.

5.4.3 Visible Emissions - IDAPA 58.01.01.625

5.4.3.1 Requirement

Permit Condition 5.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 5.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.4.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 5.13 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections on a bi-weekly basis. Permit Condition 5.15 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.4.4 Process Weight Rate Standard - IDAPA 58.01.01.702

5.4.4.1 Requirement

Permit Condition 5.3 was originally established by Permit Condition 5.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate.

Although IDAPA 58.01.01.702.02(b) exempts equipment that is exclusively used to dehydrate beet pulp from the requirements of Section 702, TASCO has indicated that the dryers may be used for materials other that beets. Additionally, TASCO feeds CSB into the dryers along with beet pulp. Therefore, IDAPA 58.01.01.702 is applicable to the dryers.

5.4.4.2 Monitoring, Recordkeeping, and Reporting

As part of the proposed Emissions Control Plan submitted in the Tier II operating permit application, emissions from the South dryer be reduced by half, while the Center and North dryers must cease operation within five years of permit issuance. Since the operational parameters from the South dryer, after the required emissions reduction, are currently unknown, it is not possible to demonstrate compliance with the process weight rate standard. Therefore, TASCO is required to conduct performance tests to demonstrate compliance with the process weight rate standard.

Permit Condition 5.8 requires TASCO to conduct a performance test for PM emissions from the South dryer, using coal as the exclusive fuel during the test. During the source test, TASCO must monitor and record the pulp throughput of the dryer. Permit Condition 5.5 limits the pulp throughput of the dryer to the average throughput rate achieved during the most recent DEQ-approved source test. Since the performance test establishes compliance with the emissions limits in Permit Condition 5.3, and Permit Condition 5.5 establishes throughput limits on the dryer, continual compliance will be demonstrated so long as the process throughputs do not exceed the limit established in Permit Condition 5.5. Permit Condition 5.9 requires TASCO to monitor and record the throughput of the dryer.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 5.13 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 5.9-5.12 to DEQ and the EPA every six months.

5.5 EMISSIONS UNIT – PELLET MILLS (S-D4, S-D5, S-D6, S-D7, AND S-D8)

5.5.1 Emissions Unit Description

Pellet mills No. 1, 2, 3, 4, and 5 (S-D4, S-D5, S-D6, S-D7, and S-D8, respectively) use forced ambient air to lower the temperature of the dry, pelletized pulp. The pellet mills are all manufactured by California Pellet Mill, and were installed at various dates ranging from 1958 to 1972. Pellet mills No. 1 and 5 each have rated capacities of 4.4 T/hr of pellets. Pellet mills No. 2, 3, and 4 each have rated capacities of 8.8 T/hr of pellets. Emissions from each mill are controlled by a cyclone (i.e., one cyclone per mill).

5.5.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.5.2.1 Requirement

Permit Condition 6.1 is a paraphrase of Permit Condition 6.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.5.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 6.6 requires the permittee to conduct a performance test to establish compliance with the PM_{10} emissions rate limit in Permit Condition 6.1. The performance test must be conducted after a baghouse (refer to Permit Condition 6.5) is installed. The performance test must be conducted at worst-case conditions, and the total pellet throughput of the mills and the pressure drop across the baghouse must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 6.4 limits the total pellet throughput of the mills to 120% of the average throughput rate achieved during the source test. Permit Condition 6.5 requires that the pressure drop across the baghouse be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop an O&M manual for the mill baghouse based, in part, on the monitoring parameters from the performance test. Permit Condition 6.7 requires TASCO to monitor and record the pellet throughput of each mill, while Permit Condition 6.8 requires monitoring of the baghouse pressure drop. These permit conditions limit the emissions rate of PM_{10} from the mills and use the pellet throughput of the mills and the baghouse pressure drop as methods for continually determining compliance with the emissions limits of Permit Condition 6.1.
Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 6.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 6.7-6.9 to DEQ and the EPA every six months.

Section 14 of the Tier I operating permit contains a compliance schedule for the TASCO facility. As part of this compliance schedule, TASCO is required to install and operate a baghouse on the pellet mills. The baghouse will reduce total emissions from the mills; however, operational constraints mandate a one-year period to install the baghouse. Permit Condition 6.5 requires that a baghouse be installed and operated within one year of permit issuance. Permit Condition 14.5.4 requires that TASCO notify DEQ when the baghouse is installed and operational. These provisions ensure compliance with the emissions limits of Permit Condition 6.1.

5.5.3 Visible Emissions - IDAPA 58.01.01.625

5.5.3.1 Requirement

Permit Condition 6.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 6.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.5.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 6.9 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections on a bi-weekly basis. Permit

Condition 6.10 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.5.4 Process Weight Rate Standard - IDAPA 58.01.01.702

5.5.4.1 Requirement

Permit Condition 6.3 was originally established by Permit Condition 6.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The pellet mills are subject to IDAPA 58.01.01.702 because they were in operation prior to October 1, 1979. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

5.5.4.2 Monitoring, Recordkeeping, and Reporting

The process weight rate standards can be used in conjunction with the rated throughput capacity of each pellet mill to determine a maximum PM emissions rate limit for each pellet mill. A baghouse will be installed in the first year of the permit term (refer to Permit Condition 6.5). The *Air Pollution Engineering Manual* (Air and Waste Management Association, 1992) states that well-designed and operated baghouses are *"...capable of reducing overall particulate emissions to less than 0.010 gr/dscf..."* Based on this information and additional information taken from the Tier I permit application, Appendix B contains calculations that demonstrate continual compliance with the process weight rate limit, so long as the baghouse is in operation. Permit Condition 6.5 requires TASCO to operate the baghouse during operation of the pellet mills. Permit Condition 2.21 requires TASCO to develop an O&M manual for operation of the baghouse. These permit conditions assure compliance with the process weight rate standards, and no further demonstration of compliance is necessary.

5.6 EMISSIONS UNIT – A AND B LIME KILNS (S-K1 AND S-K2)

5.6.1 Emissions Unit Description

The A and B lime kilns (S-K1 and S-K2, respectively) are used to produce burnt lime from a mixture of coke and lime rock. Both kilns were manufactured by Belgium Lime Kiln and operate as batch systems. The A lime kiln was installed in 1942 and has a rated capacity of 238 T/d. The B lime kiln was installed in 1968 and has a rated capacity of 277 T/d. Approximately 60% of the exhaust gases from each kiln pass through two gas scrubbers and a carbonation system in series. The remaining 40% of the exhaust gases from both kilns are controlled by a baghouse.

DEQ has determined that the grain-loading standard (IDAPA 58.01.01.675) does not apply to the lime kilns.

5.6.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.6.2.1 Requirement

Permit Condition 7.1 is a paraphrase of Permit Condition 7.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.6.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 7.6 requires the permittee to conduct a performance test to establish compliance with the PM_{10} and CO emissions rate limits in Permit Condition 7.1. The performance test must be conducted at worst-case conditions, and the lime rock throughput of each kiln and the pressure drop across the baghouse must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 7.4 limits the lime rock throughput of each kiln to 120% of the average throughput rate achieved during the source test. Permit Condition 7.5 requires that the pressure drop across the baghouse be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop an O&M manual for the kiln baghouse based, in part, on the monitoring parameters from the performance test. Permit Condition 7.7 requires TASCO to monitor and record the lime rock throughput of each kiln, while Permit Condition 7.8 requires monitoring of the baghouse pressure drops. These permit conditions limit the emissions rate of PM_{10} and CO from the kilns and use the lime rock throughput of each kiln and the baghouse pressure drop as methods for continually determining compliance with the emissions limits of Permit Condition 7.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 7.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 7.7-7.9 to DEQ and the EPA every six months.

5.6.3 Visible Emissions - IDAPA 58.01.01.625

5.6.3.1 Requirement

Permit Condition 7.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 7.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.6.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 7.9 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections on a bi-weekly basis. Permit Condition 7.10 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.6.4 Process Weight Rate Standard - IDAPA 58.01.01.702

5.6.4.1 Requirement

Permit Condition 7.3 was originally established by Permit Condition 7.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The pellet mills are subject to IDAPA 58.01.01.702 because they were in operation prior to October 1, 1979. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

5.6.4.2 Monitoring, Recordkeeping, and Reporting

Particulate matter emissions from the kilns are only emitted from the lime kiln baghouse. All PM emissions routed through the carbonation system are removed from the exhaust stream before release to the atmosphere.

The process weight rate standards can be used in conjunction with the rated throughput capacity of each kiln to determine a maximum PM emissions rate limit for each kiln. The *Air Pollution Engineering Manual* (Air and Waste Management Association, 1992) states that well-designed and operated baghouses are *"...capable of reducing overall particulate emissions to less than 0.010 gr/dscf..."* Based on this information and additional information taken from the Tier I permit application, Appendix B contains calculations that demonstrate continual compliance with the process weight rate limit, so long as the

baghouse is in operation. Permit Condition 7.5 requires TASCO to operate the baghouse during operation of the kilns. Permit Condition 2.21 requires TASCO to develop an O&M manual for operation of the baghouse. These permit conditions assure compliance with the process weight rate standards, and no further demonstration of compliance is necessary.

5.7 EMISSIONS UNIT – PROCESS SLAKERS (S-K4)

5.7.1 Emissions Unit Description

The facility operates the A and B process slakers (S-K4) to produce milk of lime from crushed calcium oxide rocks and water. The slakers were manufactured by Ogden Iron Works and are operated as batch systems. The slakers were installed in 1968 and have a total rated capacity of 257 T/d of calcium oxide. Emissions from the process slakers are controlled by one scrubber (A-K4).

5.7.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.7.2.1 Requirement

Permit Condition 8.1 is a paraphrase of Permit Condition 8.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.7.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 8.6 requires the permittee to conduct a performance test to establish compliance with the PM_{10} emissions rate limit in Permit Condition 8.1. The performance test must be conducted at worst-case conditions, and the calcium oxide rock throughput of each process slaker and the scrubber nozzle header pressure of the scrubber must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 8.4 limits the calcium oxide rock throughput of each slaker to 120% of the average throughput rate achieved during the source test. Permit Condition 8.5 requires that the scrubber nozzle header pressure of the scrubber be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop O&M manuals for the slakers' scrubber based, in part, on the monitoring parameters from the performance test. Permit Condition 8.7 requires TASCO to monitor and record the throughput of each slaker, while Permit Condition 8.8 requires monitoring of the scrubber nozzle header pressure. These permit conditions limit the emissions rate of PM_{10} from the slakers and use the calcium oxide rock throughput of each slaker and the scrubber water flow rate as methods for continually determining compliance with the emissions limits of Permit Condition 8.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 8.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 8.7-8.9 to DEQ and the EPA every six months.

5.7.3 Visible Emissions - IDAPA 58.01.01.625

5.7.3.1 Requirement

Permit Condition 8.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 8.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.7.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 8.9 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections. Permit Condition 8.10 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.7.4 Process Weight Rate Standard - IDAPA 58.01.01.702

5.7.4.1 Requirement

Permit Condition 8.3 was originally established by Permit Condition 8.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The slakers are subject to IDAPA 58.01.01.702 because they were in operation prior to October 1, 1979. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

5.7.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 8.6 requires TASCO to conduct a performance test for PM emissions from the process slakers. During the source test, TASCO must monitor and record the throughput of each slaker. Permit Condition 8.4 limits the throughput of each slaker to 120% of the average throughput rate achieved during the most recent DEQ-approved source test. Since the performance test establishes compliance with the emissions limits in Permit Condition 8.3, and Permit Condition 8.4 establishes throughput limits on the slakers, continual compliance will be demonstrated so long as the process throughputs do not exceed the limit established in Permit Condition 8.4. Permit Condition 8.7 requires TASCO to monitor and record the throughput of each slaker.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 8.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 8.7-8.9 to DEQ and the EPA every six months.

5.8 EMISSIONS UNIT – DRYING GRANULATOR (S-W1)

5.8.1 Emissions Unit Description

The facility operates a drying granulator (S-W1) to dry wet sugar. The drying granulator was manufactured by TASCO and installed in 1987 as a replacement for an existing drying granulator. The rated capacity of the granulator is 46 T/hr of sugar. The granulator emissions are controlled by one scrubber, using thin juice as the scrubber fluid.

5.8.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.8.2.1 Requirement

Permit Condition 9.1 is a paraphrase of Permit Condition 9.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.8.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 9.6 requires the permittee to conduct a performance test to establish compliance with the PM_{10} emissions rate limit in Permit Condition 9.1. The performance test must be conducted at worst-case conditions, and the throughput of the drying granulator and the brix of the scrubber fluid must be monitored during each source test. Brix is defined as percent solids in thin juice (i.e., scrubber fluid).

Based on the most recent DEQ-approved performance test, Permit Condition 9.4 limits the throughput of the granulator to 120% of the average throughput rate achieved during the source test. Permit Condition 9.5 requires that the brix of the scrubber fluid be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop an O&M manual for the scrubber based, in part, on the monitoring parameters from the performance test. Permit Condition 9.7 requires TASCO to monitor and record the throughput of the granulator, while Permit Condition 9.8 requires monitoring of the brix of the scrubber fluid. These permit conditions limit the emissions rate of PM_{10} from the granulator and use the throughput of the granulator and the brix of the scrubber fluid as methods for continually determining compliance with the emissions limits of Permit Condition 9.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 9.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 9.7-9.9 to DEQ and the EPA every six months.

5.8.3 Visible Emissions - IDAPA 58.01.01.625

5.8.3.1 Requirement

Permit Condition 9.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 9.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.8.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 9.9 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections. Permit Condition 9.10 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.8.4 Process Weight Rate Standard - IDAPA 58.01.01.701

5.8.4.1 Requirement

Permit Condition 9.3 was originally established by Permit Condition 9.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The drying granulator is subject to IDAPA 58.01.01.701 because it was installed in 1987. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

5.8.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 9.6 requires TASCO to conduct a performance test for PM emissions from the drying granulator. During the source test, TASCO must monitor and record the throughput of the granulator. Permit Condition 9.4 limits the throughput of the granulator to 120% of the average throughput rate achieved during the most recent DEQ-approved source test. Since the performance test establishes compliance with the emissions limits in Permit Condition 9.3, and Permit Condition 9.4 establishes throughput limits on the granulator, continual compliance will be demonstrated so long as the process throughputs do not exceed the limit established in Permit Condition 9.4. Permit Condition 9.7 requires TASCO to monitor and record the throughput of the granulator.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 9.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 9.7-9.9 to DEQ and the EPA every six months.

5.9 EMISSIONS UNIT – NO. 1 AND NO. 2 COOLING GRANULATORS (S-W2 AND S-W3)

5.9.1 Emissions Unit Description

The facility operates the No. 1 and 2 cooling granulators (S-W2 and S-W3, respectively) to cool hot sugar from the drying granulator. The No. 1 cooling granulator was manufactured by Hersey and was installed in 1944. The No. 2 cooling granulator was manufactured by Great Western Sugar and was installed in 1981. Each granulator has a rated capacity of 27.5 T/hr of sugar. Emissions from each granulator are controlled by a baghouse.

5.9.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.9.2.1 Requirement

Permit Condition 10.1 is a paraphrase of Permit Condition 10.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.9.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 10.7 requires the permittee to conduct a performance test on the No. 1 cooling granulator to establish compliance with the PM_{10} emissions rate limits in Permit Condition 10.1. The performance test must be conducted at worst-case conditions, and the throughput of the granulator and the pressure drop across the baghouse must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 10.5 limits the throughput of both granulators to the average throughput rate achieved during the source test. Since the granulators have the same rated capacity, the performance test results from the No. 1 cooling granulator will be used to develop operational parameters for the No. 2 cooling granulator. Permit Condition 10.6 requires that the pressure drops across the baghouses be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop an O&M manual for both baghouses based, in part, on the monitoring parameters from the performance test. Permit Condition 10.8 requires TASCO to monitor and record the throughput of each granulator, while Permit Condition 10.9 requires monitoring of the baghouse pressure drops. These permit conditions limit the emissions rate of PM_{10} from the granulators and use the throughput of each granulator and the baghouse pressure drop as methods for continually determining compliance with the emissions limits of Permit Condition 10.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 10.11 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 10.8-10.10 to DEQ and the EPA every six months.

5.9.3 Visible Emissions - IDAPA 58.01.01.625

5.9.3.1 Requirement

Permit Condition 10.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 10.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.9.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 10.10 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections. Permit Condition 10.11 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.9.4 Process Weight Rate Standards - IDAPA 58.01.01.701 and 702

5.9.4.1 Requirement

Permit Conditions 10.3 and 10.4 were originally established by Permit Conditions 10.4 and 10.5 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The No. 2 cooling granulator is subject to IDAPA 58.01.01.701 because it was installed in 1981, while the No. 1 cooling granulator is subject to IDAPA 58.01.01.702 because it was in operation prior to October 1, 1979. In accordance with IDAPA 58.01.01.008.03, these are applicable requirements for the Tier I operating permit.

5.9.4.2 Monitoring, Recordkeeping, and Reporting

The process weight rate standards can be used in conjunction with the rated throughput capacities of the granulators to determine a maximum PM emissions rate limit for each granulator. The *Air Pollution Engineering Manual* (Air and Waste Management Association, 1992) states that well-designed and operated baghouses are *"...capable of reducing overall particulate emissions to less than 0.010 gr/dscf..."* Based on this information and additional information taken from the Tier I permit application, Appendix B contains calculations that demonstrate continual compliance with the process weight rate limit, so long as the baghouses are in operation. Permit Condition 10.6 requires TASCO to operate the baghouses during operation of the granulators. Permit Condition 2.21 requires TASCO to develop an O&M manual for operation of the baghouses. These permit conditions assure compliance with the process weight rate standards, and no further demonstration of compliance is necessary.

5.10 EMISSIONS UNIT – PROCESS NO. 2, SUGAR REMELT, SPECIALTIES, PACKAGING LINE, POWDERED SUGAR, AND BAGGING ROOM SUGAR-HANDLING SYSTEMS (S-W4, S-W5, S-W6, AND S-W7)

5.10.1 Emissions Unit Description

The sugar-handling emissions come from four systems. The process No. 2 sugar handling system (S-W4) was installed in 1965 and consists of elevators, scrolls, baggers, rotexes, screen stations, bagging stations, and scales. The specialties sugar-handling system (S-W6) was installed in 1965 and consists of a palletizing belt and tote machine. The packaging line sugar-handling system (S-W7) was installed in 1982 and consists of scrolls, baggers, and a loading scale. The sugar remelt handling system (S-W5) was installed in 1965 and consists of miscellaneous pick-up points and housekeeping activities. Emissions from each system are controlled by a baghouse.

5.10.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.10.2.1 Requirement

Permit Condition 11.1 is a paraphrase of Permit Condition 11.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

The sugar remelt handling system does not currently have PM_{10} emissions limits.

5.10.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 11.7 requires the permittee to conduct performance tests on each of the three affected sugar-handling systems to establish compliance with the PM_{10} emissions rate limits in Permit Condition 11.1. The performance test must be conducted at worst-case conditions, and the throughput of the sugar-handling system and the pressure drop across the baghouse must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 11.5 limits the throughput of each sugar handling system to the average throughput rate achieved during the source test. Permit Condition 11.6 requires that the pressure drops across the baghouses be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop an O&M manual for the handling system baghouses based, in part, on the monitoring parameters from the performance test. Permit Condition 11.8 requires TASCO to monitor and record the throughput of each handling system, while Permit Condition 11.9 requires monitoring of the baghouse pressure drops. These permit conditions limit the emissions rate of PM_{10} from the handling systems and use the throughput of each handling system and the baghouse pressure drop as methods for continually determining compliance with the emissions limits of Permit Condition 11.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 11.11 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 11.8-11.10 to DEQ and the EPA every six months.

5.10.3 Visible Emissions - IDAPA 58.01.01.625

5.10.3.1 Requirement

Permit Condition 11.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 11.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.10.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 11.10 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections. Permit Condition 11.11 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.10.4 Process Weight Rate Standards - IDAPA 58.01.01.701 and 702

5.10.4.1 Requirement

Permit Conditions 11.3 and 11.4 were originally established by Permit Conditions 11.4 and 11.5 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The sugar remelt handling system was not included in the Tier II operating permit, but has been added to the Tier I operating permit. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The packaging line sugar-handling system is subject to IDAPA 58.01.01.701 because it was installed in 1982, while the sugar remelt, process No. 2, and specialties sugar-handling systems are subject to IDAPA 58.01.01.702 because they were in operation prior to

October 1, 1979. In accordance with IDAPA 58.01.01.008.03, these are applicable requirements for the Tier I operating permit.

5.10.4.2 Monitoring, Recordkeeping, and Reporting

The rated capacities of each sugar-handling system are not included in the Tier I permit application. Without the rated capacities of each sugar-handling system, the PM emissions rate limit cannot be determined from the equations in Permit Conditions 11.3 and 11.4; therefore, compliance with the process weight rate limit cannot be determined from the application information. In lieu of this information, a performance test is required to demonstrate compliance with the process weight rate standard. Permit Condition 11.7 requires TASCO to conduct a performance test for PM emissions from the four sugar-handling systems. During the source test, TASCO must monitor and record the throughput of each handling system. Permit Condition 11.5 limits the throughput of each sugar-handling system to 120% of the average throughput rate achieved during the most recent DEQ-approved source test. Since the performance test establishes compliance with the emissions limits in Permit Condition 11.3 and/or 11.4, and Permit Condition 11.5 establishes throughput limits on the sugar-handling systems, continual compliance will be demonstrated so long as the process throughputs do not exceed the limit established in Permit Condition 11.5. Permit Condition 11.8 requires TASCO to monitor and record the throughput of each sugar-handling system.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 11.11 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 11.8-11.10 to DEQ and the EPA every six months.

5.11 EMISSIONS UNIT – LIME KILN BUILDING, MAIN MILL, AND SULFUR STOVES (S-K3, S-O1, S-O2, AND S-O3)

5.11.1 Emissions Unit Description

Emissions from the vents of the lime kiln building (S-K3) are created by one crusher and all coke-, lime rock-, and calcium oxide-handling processes within the building. Thin juice is processed in the main mill (S-O1). Emissions from the lime kiln building are controlled by one baghouse (A-K3). The main mill was installed prior to 1970 and has a maximum throughput of 180,000 gallons of thin juice. Emissions from the main mill are uncontrolled. The A side and B side sulfur stoves (S-O2 and S-O3, respectively) are used to burn sulfur to generate SO_2 that is used in the juice purification stage. The A side stove was installed in 1945, while the B side stove was installed in 1968. The sulfur stoves are batch processes, with a maximum daily throughput of 0.38 tons of sulfur per stove. Emissions from the A and B sulfur stoves are controlled by one of two sulfur towers (A-O2 and A-O3, respectively).

5.11.2 Emission Limits - Tier II Operating Permit No. 027-00010

5.11.2.1 Requirement

Permit Condition 12.1 is a paraphrase of Permit Condition 12.3 in Tier II Operating Permit No. 027-00010, dated September 30, 2002, and is an applicable requirement for Tier I operating permit concerns in accordance with IDAPA 58.01.01.008.03.

5.11.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 12.6 requires the permittee to conduct performance tests on the lime kiln building to establish compliance with the PM_{10} emissions rate limits in Permit Condition 12.1. The performance test must be conducted at worst-case conditions, and the total throughput of lime rock to the kilns and the pressure drop across the lime kiln building baghouse must be monitored during each source test.

Based on the most recent DEQ-approved performance test, Permit Condition 12.4 limits the throughput of lime rock to the kilns to 120% of the average throughput rate achieved during the source test. Permit Condition 12.5 requires that the pressure drops across the baghouse be maintained within the parameters of the O&M manual. Permit Condition 2.21 requires TASCO to develop an O&M manual for the lime kiln building baghouse based, in part, on the monitoring parameters from the performance test. Permit Condition 12.7 requires TASCO to monitor and record the throughput of each kiln, while Permit Condition 12.8 requires monitoring of the baghouse pressure drop. These permit conditions limit the emissions rate of PM_{10} from the lime kiln building and use the throughput of the kilns and the baghouse pressure drop as methods for continually determining compliance with the emissions limits of Permit Condition 12.1.

Permit Condition 2.17 requires TASCO to submit the performance test results to DEQ within 30 days of the conclusion of the testing. Permit Condition 12.10 requires TASCO to submit a written summary report of the operational monitoring data required by Permit Conditions 12.7-12.9 to DEQ and the EPA every six months.

5.11.3 Visible Emissions - IDAPA 58.01.01.625

5.11.3.1 Requirement

Permit Condition 12.2 of the Tier I operating permit contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The facility-wide conditions of the Tier I operating permit stipulate requirements for visible emissions (Permit Condition 2.7). To reduce redundant permit requirements, Permit Condition 12.2 states that the permittee shall comply with the facility-wide visible emissions requirements.

5.11.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 12.9 of the Tier I operating permit requires the permittee to comply with the facility-wide conditions for monitoring and recording visible emissions inspections. Permit Condition 12.10 requires the permittee to submit a summary report of the data acquired from the visible emissions inspections.

5.11.4 Process Weight Rate Standards - IDAPA 58.01.01.702

5.11.4.1 Requirement

Permit Condition 12.3 was originally established by Permit Conditions 12.4 of Tier II Operating Permit No. 027-00010, dated September 30, 2002. The process weight limitations apply to any process or process equipment at a facility, and establish PM emissions limits based on process weight rate. The lime kiln building is subject to IDAPA 58.01.01.702 because it was in operation prior to October 1, 1979. In accordance with IDAPA 58.01.01.008.03, this is an applicable requirement for the Tier I operating permit.

The process weight rate standards were not applied to the main mill or the sulfur stoves because these sources do not directly emit PM. The main mill is a source of VOC emissions and the sulfur stoves emit SO_2.

5.11.4.2 Monitoring, Recordkeeping, and Reporting

The process weight rate standards can be used in conjunction with the rated capacity of the calcium oxide rock throughput of the kilns to determine a maximum PM emissions rate limit for the lime kiln building. The *Air Pollution Engineering Manual* (Air and Waste Management Association, 1992) states that well-designed and operated baghouses are *"...capable of reducing overall particulate emissions to less than 0.010 gr/dscf..."* Based on this information and additional information taken from the Tier I permit application, Appendix B contains calculations that demonstrate continual compliance with the process weight rate limit, so long as the baghouse is in operation. Permit Condition 12.5 requires TASCO to

operate the baghouse during operation of relevant processes within the lime kiln building. Permit Condition 2.21 requires TASCO to develop an O&M manual for operation of the baghouse. These permit conditions assure compliance with the process weight rate standards, and no further demonstration of compliance is necessary.

6. INSIGNIFICANT ACTIVITIES

Table 6.1 lists the insignificant activities described by the source in accordance with IDAPA 58.01.01.317.01(b). Emissions calculations showing compliance with the provisions of IDAPA 58.01.01.317.01(b)(i)(30) are available in Attachment No. 3 of the TASCO Tier I operating permit application update dated February 1999. Emissions calculations for fugitive sources can be found in the Tier II operating permit application. The calculations were reviewed and found to be consistent with current DEQ methodology.

Table 6.1: INSIGNIFICANT ACTIVITIES

Description	Insignificant Activities Section Citation IDAPA 58.01.01.317.01(b)(i)
Gasoline storage tanks with capacity less than or equal to 10,000-gallon capacity with lids or other appropriate closures	IDAPA 58.01.01.317.01(b)(i)(3)
Combustion sources less than 5 MMBtu/hr, using natural gas, butane, propane, and/or LPG (heaters and railcar propane lances)	IDAPA 58.01.01.317.01(b)(i)(5)
Printing and silk-screening using less than two gallons of ink per day (Ink for package coding)	IDAPA 58.01.01.317.01(b)(i)(12)
Hot water heaters less than 5 MMBtu/hr using natural gas, propane, or kerosene	IDAPA 58.01.01.317.01(b)(i)(18)
Process defoamer tank	IDAPA 58.01.01.317.01(b)(i)(19)
Sulfuric acid tank	IDAPA 58.01.01.317.01(b)(i)(19)
Ammonium bisulfate solution tank	IDAPA 58.01.01.317.01(b)(i)(19)
Flume defoamer tank	IDAPA 58.01.01.317.01(b)(i)(19)
Sodium hypochlorite tank	IDAPA 58.01.01.317.01(b)(i)(19)
Liquid aluminum sulfate tank	IDAPA 58.01.01.317.01(b)(i)(19)
Caustic soda tank	IDAPA 58.01.01.317.01(b)(i)(19)
Summer boiler	IDAPA 58.01.01.317.01(b)(i)(30)
Wet and pressed pulp handling	IDAPA 58.01.01.317.01(b)(i)(30)
Gypsum pneumatic conveyance system	IDAPA 58.01.01.317.01(b)(i)(30)
Flume slaker	IDAPA 58.01.01.317.01(b)(i)(30)
Coke handling	IDAPA 58.01.01.317.01(b)(i)(30)
Lime rock handling	IDAPA 58.01.01.317.01(b)(i)(30)
Lime kiln loadout during start-up and shut-down	IDAPA 58.01.01.317.01(b)(i)(30)
Beet hauling	IDAPA 58.01.01.317.01(b)(i)(30)
Coal unloading	IDAPA 58.01.01.317.01(b)(i)(30)
Pellet mill fan vents	IDAPA 58.01.01.317.01(b)(i)(30)
Powdered sugar baghouse handling	IDAPA 58.01.01.317.01(b)(i)(30)
Sugar baghouse handling	IDAPA 58.01.01.317.01(b)(i)(30)

7. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios were identified by the facility.

8. TRADING SCENARIOS

There were no trading scenarios requested by the facility.

9. COMPLIANCE SCHEDULE AND COMPLIANCE CERTIFICATION

9.1 COMPLIANCE SCHEDULE

In order to issue the Tier I operating permit, it was necessary to include a compliance schedule within the permit. The compliance schedule appears in Section 14 of the Tier I operating permit. Permit Conditions 14.2 through 14.10 of the Tier I operating permit contains the terms and conditions of the compliance schedule contained in Tier II Operating Permit No. 027-00010, dated September 30, 2002. In accordance with IDAPA 58.01.01.008.03, these are applicable requirements for the Tier I operating permit. Permit Conditions 14.12 through 14.17 did not appear in the Tier II permit; however, these provisions are intended to address sources at the facility that may not be in compliance with the *Rules* at the time of issuance of the Tier I permit. Specifically, these sources required a review for applicability with IDAPA 58.01.01.200-228 prior to construction and/or modification to determine if the sources required a PTC. In accordance with IDAPA 58.01.01.315 and 322.10, this is an appropriate requirement for the Tier I operating permit compliance schedule.

Permit Condition 14.2 contains emissions limits for the three pulp dryers and the five pellet mills. These emissions rates were used in the Northern Ada County PM_{10} Maintenance Plan to demonstrate attainment for the area. Although the provisions of Permit Conditions 14.5 and 14.9 ensure that emissions from these sources will eventually be decreased to the emissions limits in Permit Conditions 5.1 and 6.1, the Northern Ada County PM_{10} Maintenance Plan requires federally-enforceable emissions limits by 2002. Therefore, Permit Condition 14.2 establishes emissions limits that can be used for the maintenance plan until such time as the emissions limits of Permit Conditions 5.1 and 6.1 become applicable under the provisions of the compliance schedule. Permit Condition 14.4 requires performance testing of the dryers to demonstrate compliance with the emissions limits of Permit Condition 14.2.

Permit Condition 14.3 requires TASCO to implement the requirements of Permit Conditions 2.1-2.4 within 60 days of Tier II permit issuance. Permit Conditions 2.1-2.4 contain the provisions of the Fugitive Dust Management Plan, intended to reduce fugitive emissions from the facility. Permit Condition 14.3.2 requires TASCO to notify DEQ when the requirements of Permit Condition 14.3 are fulfilled.

Permit Condition 14.4 requires that performance tests be conducted on the pulp dryers to demonstrate compliance with the PM_{10} emissions limits in Permit Condition 14.2. These emissions limits are taken from emissions rates used to develop the Northern Ada County PM_{10} Maintenance Plan. Although the provisions of the compliance schedule will reduce emissions from the dryers and pellet mills to levels that demonstrate no cause or significant contribution to a violation of the NAAQS (i.e., Permit Conditions 5.3 and 6.3), these reductions are scheduled to be implemented over the course of five years. The Northern Ada County PM_{10} Maintenance Plan is currently scheduled for implementation in 2002. All emission rates used in the Northern Ada County PM_{10} Maintenance Plan are required to be federally enforceable; therefore, TASCO is required to source test these sources to demonstrate compliance with the limits of Permit Condition 14.2. Permit Condition 5.5 restricts the throughput of the dryers, based upon the average throughput attained during the most recent DEQ-approved performance test. This ensures that emissions from the dryers will not exceed the limits used to develop the Northern Ada County PM_{10} Maintenance Plan.

DEQ reviewed the methodology used to calculate PM_{10} emissions rate estimates for the pellet mills (presented in Appendix 2 of TASCO's Tier II permit application). It appears that TASCO was conservative in calculating the pellet mill emissions rate estimates (i.e., the estimated emissions rates are probably greater than actual emissions rates). TASCO used AP-42 emission factors, assumed that all particulate matter is PM_{10}, and added a 15% safety factor to the emissions estimates. Due to the temporary status of the current exhaust arrangement of the pellet mills (control equipment is required to be installed on the pellet mills by Permit Condition 6.5) and the conservative nature of the emissions estimates, DEQ has not

required source testing for these sources prior to implementation of Permit Condition 6.5. However, the requirement to conduct a source test for PM_{10} emissions from the pellet mills after installation of the control equipment (Permit Condition 2.11.3 of the proposed Tier II permit) remains in the permit.

Permit Condition 14.5 requires TASCO to implement the requirements of Permit Conditions 6.5 and 6.8 within one year of Tier II permit issuance. Permit Condition 6.5 requires the installation and operation of a baghouse on the pellet mills. Permit Condition 6.8 establishes monitoring requirements for the pellet mill baghouse. Permit Condition 14.5 also requires TASCO to merge the flue gases from the Riley boiler into the B&W boilers' stack (Unit No. P-B1/2) within one year of Tier II permit issuance. Although the merging of flue gases does not constitute any form of emissions control, TASCO's Tier II operating permit application modeling analysis used the merged flue gases to demonstrate NAAQS compliance. Therefore, the flue gas merger is required in the compliance schedule. Permit Conditions 3.7 and 6.6 requires TASCO to conduct performance tests to demonstrate compliance with the emissions limits in Permit Conditions 3.1 and 6.1, which assure that the emissions from the boilers and pellet mills do not cause or significantly contribute to a violation of the NAAQS. Permit Condition 14.5.3 requires TASCO to notify DEQ when the requirements of Permit Conditions 14.5.1 and 14.5.2 are fulfilled.

Permit Condition 14.6 requires TASCO to submit a PTC application for the proposed steam dryer system project within two years of permit issuance. The application is required in accordance with IDAPA 58.01.01.201. Although the Tier II operating permit indicated that the emissions from the steam system will not directly produce any emissions increase, the PTC application is required to verify that the steam system and any affected units will not cause or significantly contribute to a violation of the NAAQS. Permit Condition 14.6.2 requires TASCO to install the beet cleaning system required for operation of the steam dryer system, pending a DEQ action on the PTC application required by Permit Condition 14.6.1. Permit Condition 14.6.3 requires TASCO to notify DEQ when the requirements of Permit Conditions 14.6.2 are fulfilled.

Permit Condition 14.7 requires TASCO to install the evaporator transformer and mill heaters required for operation of the steam dryer system during the third year of the Tier II permit term, pending a DEQ action on the PTC application required by Permit Condition 14.6.1. Permit Condition 14.7.2 requires TASCO to notify DEQ when the requirements of Permit Condition 14.7.1 are fulfilled.

Permit Condition 14.8 requires TASCO to order and fabricate the steam dryer system during the fourth year of the Tier II permit term, pending a DEQ action on the PTC application required by Permit Condition 14.6.1. Permit Condition 14.8.2 requires TASCO to notify DEQ when the requirements of Permit Condition 14.8.1 are fulfilled.

Permit Condition 14.9 requires TASCO to install and operate the steam dryer system during the fifth year of the Tier II permit term, pending a DEQ action on the PTC application required by Permit Condition 14.6.1. Permit Condition 14.9.2 requires the Center and North dryers to permanently cease operation at the facility. Permit Condition 5.8 requires TASCO to conduct performance tests to demonstrate compliance with the emissions limits in Permit Conditions 5.1, which assure that the emissions from the remaining South dryer do not cause or significantly contribute to a violation of the NAAQS. Permit Condition 14.9.3 requires TASCO to notify DEQ when the requirements of Permit Conditions 14.9.1 and 14.9.2 are fulfilled.

Permit Condition 14.10 requires TASCO to submit updated Tier I and Tier II operating permit applications after the requirements of Permit Condition 14.9 have been fulfilled. The purpose of this requirement is to update the Tier I and Tier II operating permits to incorporate the process changes, performance test information, and emissions rate reductions required by the current Tier I and Tier II operating permits and their compliance schedules. In the event that the current Tier I permit expires before an updated Tier I permit can be issued, Permit Condition 14.11 states that TASCO shall continue to comply with the conditions of the initial Tier I operating permit.

Permit Conditions 14.12 through 14.15 require TASCO to submit additional information to supplement the current Tier II operating permit. On April 24, 2002, DEQ issued a letter to TASCO requesting that the

facility submit additional information (e.g., dates of construction, design capacities, operational data, etc.) for several units at the facility. These sources are listed below:

- Thick juice storage tanks Nos. 1-9;
- A side diffuser;
- Drying granulator;
- No. 2 cooling granulator;
- Chromatic separator; and
- 2800-KW and 6000-KW generators.

The intent of this letter was to obtain information necessary to determine if the units were constructed or modified in a manner that would have required issuance of a PTC in accordance with IDAPA 58.01.01.200-228. DEQ received a response from TASCO on July 1, 2002, although DEQ found that, overall, information included in this submittal was insufficient for use in applicability determinations for the affected units. It is currently unclear if these units required PTCs; therefore, Permit Conditions 14.13 and 14.14 require TASCO to:

- Submit applicable information needed to address the applicable requirements of IDAPA 58.01.01.200-228 for the construction and/or modification of the sources in question (refer to Permit Condition 14.13); and
- Submit a supplemental application that address the applicable requirements of IDAPA 58.01.01.200-228 for any other source(s) that DEQ determines to have been subject to PTC requirements, based upon the information submitted in accordance with Permit Conditions 14.13 (refer to Permit Condition 14.14).

Permit Condition 14.15 allows TASCO to extend the deadlines set forth in Permit Conditions 14.13 and 14.14 for up to one year, so long as sufficient justification is provided.

Permit Condition 14.16 states that DEQ will modify Tier I operating permit NO. 027-00010 to incorporate any additional permit provisions that may be required in response to the information submitted by TASCO in response to Permit Conditions 14.13 and 14.14.

Permit Condition 14.17 requires TASCO to request a modification to their Tier I operating permit within 30 days after the Tier II operating permit supplemental information and PTC information is determined complete by DEQ.

Permit Condition 14.18 requires TASCO to submit a progress report each calendar quarter to DEQ, until such time that all of the provisions of this compliance schedule are completed, stating when each of the milestones and compliance with each condition in the compliance schedule were or will be achieved, and an explanation of why any dates were not or will not be met and a detailed description of any preventative or corrective measures undertaken by the permittee.

9.2 COMPLIANCE CERTIFICATION

At this time, the compliance certification does not reflect the current compliance status of the facility.

10. ACID RAIN PERMIT

This does not apply to this facility.

11. AIRS DATABASE

The AIRS/AFS facility-wide classification data is presented in Table 11.1.

Table 11.1: AIRS/AFS FACILITY-WIDE CLASSIFICATION DATA ENTRY FORM

AIR PROGRAM / POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	TITLE V	AREA CLASSIFICATION A - Attainment U - Unclassifiable N - Nonattainment
SO_2	A	A				A	U
NOx	A	A				A	U
CO	A	A				A	U
PM_{10}	A	A				A	A
PM	A	A				A	U
VOC	A	B				A	U
NH_3	A	ND				ND	
Total HAP	B	B				B	
			APPLICABLE SUBPART				

AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant that is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

12. REGISTRATION FEES

The TASCO facility is a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees, in accordance with IDAPA 58.01.01.387, apply.

13. RECOMMENDATION

Based on the Tier I application and review of the federal regulations and state rules, staff recommends that DEQ issue final Tier I operating permit No. 027-00010 to TASCO for their Nampa facility.

SO:tk Project No. T1-9507-102-1 G:\AIR QUALITY\STATIONARY SOURCE\SS LTD\T1\TASCO-NAMPA\FINAL\T1-9507-102-1 FINAL TM.DOC

cc: Sherry Davis, Air Quality Division
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